



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/605,953	06/28/2000	Jonathan H. Fischer	Fischer 33-45-25	5930

23307 7590 04/20/2005

SYNNESTVEDT & LECHNER, LLP
2600 ARAMARK TOWER
1101 MARKET STREET
PHILADELPHIA, PA 191072950

EXAMINER

BRINEY III, WALTER F

ART UNIT	PAPER NUMBER
----------	--------------

2644

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/605,953

Applicant(s)

FISCHER ET AL.

Examiner

Walter F Briney III

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2004 and 26 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-26 is/are allowed.
- 6) ☒ Claim(s) 1,2,5 and 27-33 is/are rejected.
- 7) ☒ Claim(s) 4,6-8,34 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08 November 2004 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. **Claims 1, 2, 5 and 27-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Dupuis (US Patent 6,819,710).**

Claim 1 is limited to *a circuit for detecting whether a telecommunication line is off-hook, said telecommunication line comprising tip and ring signal lines*. Dupuis discloses an integrated modem and line-isolation circuit having intrusion detection. See Abstract. As seen in figure 4, the circuit is operable to be connected between tip and ring lines (202) and (204). The intrusion detection circuitry includes a *voltage divider*

comprising resistors Ra and Rb, clearly coupled between the tip and ring lines. The effective output of the *voltage divider* is coupled to the base, i.e. *control terminal*, of transistor Q1 by resistor Rd and the *second current flow terminal* thereof. In addition, transistor Q1 is connected to a current source, represented by the output of bridge rectifier (404), at a *first current flow terminal*. The effective voltage dividing output is further provided to an ADC at input DCT (303) as seen in figure 3. Therefore, Dupuis anticipates all limitations of the claim.

Claim 2 is limited to *the circuit of claim 1*, as covered by Dupuis. It is clear from figure 4, that the voltage divider disclosed by Dupuis includes a *first* and *second resistor* arranged with *first terminals* coupled to said *tip* and *ring lines*, respectively, and *second terminals* coupled to said *node*. Therefore, Dupuis anticipates all limitations of the claim.

Claim 5 is limited to *the circuit of claim 1*, as covered by Dupuis. Dupuis discloses that once the voltage of the tip and ring line is detected, it may be transmitted to a processor to determine if its value indicates an intrusion event. See column 8, lines 13-29. Therefore, Dupuis anticipates all limitations of the claim.

Claim 27 is limited to *a method for detecting whether a telecommunication line is off-hook without affecting the line impedance, said telecommunication line comprising tip and ring signal lines*. Dupuis discloses a pair of *tip* and *ring signal lines* (210) are connected to an analog to digital converter (302) by way of signal line (303), i.e. *modulating a DC voltage that appears across said tip and ring lines*. As is seen from figure 3, the output of the ADC (302) is passed to a processor (100) over a capacitive

Art Unit: 2644

isolation barrier (104), i.e. *passing said modulated DC voltage through a non-optical high voltage interface circuit*. As explained in column 8, lines 13-29, the isolated voltage is compared to a threshold to determine whether a line intrusion event has occurred, i.e. *determining whether said telecommunication line is off-hook as a function of said modulated DC voltage*. Therefore, Dupuis anticipates all limitations of the claim.

Claim 28 is limited to *the method of claim 27*, as covered by Dupuis. As explained in the rejection of claim 27, Dupuis converts the voltage across the tip and ring line to a digital value using ADC (302), i.e. *wherein step (1) comprises converting said DC voltage appearing across said tip and ring lines from analog to digital*. Therefore, Dupuis anticipates all limitations of the claim.

Claim 29 is limited to *the method of claim 28*, as covered by Dupuis. Dupuis clearly scales the voltage across said tip and ring line using a voltage divider comprising resistors Ra and Rb as seen in figure 4, i.e. *scaling said analog DC voltage appearing across said tip and ring lines before step (1)*. Therefore, Dupuis anticipates all limitations of the claim.

Claim 30 is limited to *the method of claim 29*, as covered by Dupuis. As explained in the rejection of claim 29, the voltage across the tip and ring lines is scaled by a voltage divider comprising resistors Ra and Rb as seen in figure 4, i.e. *wherein said DC voltage appearing across said tip and ring lines is scaled by a voltage divider*.

Claim 31 is limited to *the method of claim 27*, as covered by Dupuis. Dupuis discloses in column 8, lines 13-29, comparing the digitally converted tip and ring voltage

Art Unit: 2644

to a threshold, i.e. *a reference value*. Therefore, Dupuis anticipates all limitations of the claim.

Claim 32 is limited to *the method of claim 31*, as covered by Dupuis. Because the comparison step of Dupuis occurs after analog-to-digital conversion, the processor responsible for performing the step is inherently a *digital signal processor*. Therefore, Dupuis anticipates all limitations of the claim.

Claim 33 is limited to *the method of claim 29*, as covered by Dupuis. As described in column 9, line 52 through column 10, line 20, the DCT pin is enabled for monitoring the voltage across the tip and ring voltage only during periods of time when the DAA is set to an oh-hook status, as controlled by pin QB of the DAA, i.e. *selectively enabling said DC voltage appearing across said tip and ring lines to be modulated*. Therefore, Dupuis anticipates all limitations of the claim.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

2. **Claims 4, 6-8, 34, and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

Claim 4 is limited to *the circuit of claim 2*, as covered by Dupuis. As can be seen from figure 4 of Dupuis, the first current flow terminal of transistor Q1 is not connected to ground, but to the positive rectified output of bridge (404). Therefore, Dupuis

anticipates all limitations of the claim with the exception *wherein said voltage of said voltage source is ground*. Thus, claim 4 is allowable over Dupuis.

Claim 6 is limited to *the circuit of claim 2*, as covered by Dupuis. The analog-to-digital converter of Dupuis is shown only to be a single-ended device in figure 3. Therefore, Dupuis anticipates all limitations of the claim with the exception wherein said analog-to-digital converter is a differential converter. Thus, claim 6 is allowable over Dupuis.

Claims 7 and 8 depend on claim 6, and are allowable over Dupuis for at least the same reasons.

Claim 34 is limited to *the method of claim 29*, as covered by Dupuis. Step (6) recites that the DC voltage is converted into a two state signal indicative of said DC voltage before step (1). As can be appreciated from figure 4 of Dupuis, no such conversion takes place. Thus, claim 34 is allowable over Dupuis.

Claim 35 is dependent on claim 34, and is allowable over Dupuis for at least the same reasons.

3. Claims 9-26 are allowed.

Claim 9 is limited to *a telecommunication apparatus for coupling to a telecommunication link, said telecommunication link comprising tip and ring lines at a first voltage when said link is on-hook and at a second voltage when said link is off-hook*. The above stated property is an inherent condition of all analog subscriber loops, such as that depicted by Dupuis in figure 4. Dupuis discloses a *processor*, shown

generally as isolation interface (164) in figure 1B. In addition, Dupuis discloses an analog-to-digital converter (302) seen in figure 3 and a detection circuit, which has been substantially explained in the rejection of claim 1. However, the detection circuit of disclosed by Dupuis does not operate in the same fashion as recited in claim 9. In particular, the analog-to-digital converter does not receive a first or second voltage from the second current flow terminal of said transistor that determines the hook state of the tip and ring lines, i.e. *wherein said processor is adapted to disable said first circuit responsive to said analog-to-digital converter receiving said second voltage (when said transistor is turned off) and enable said first circuit responsive to said analog-to-digital converter receiving said first voltage (when said transistor is turned on)*. Thus, claim 9 is allowable over Dupuis.

Claims 10-18 are dependent on claim 9, and are allowable over Dupuis for at least the same reasons.

Claim 19 is limited to *a circuit for detecting whether a telecommunication line is off-hook, said telecommunication line comprising tip and ring signal lines*. The analog-to-digital converter of Dupuis is shown only to be a single-ended device in figure 3. Therefore, Dupuis anticipates all limitations of the claim with the exception wherein said analog-to-digital converter is a differential converter. Thus, claim 19 is allowable over Dupuis.

Claims 20-22 are dependent on claim 34, and are allowable over Dupuis for at least the same reasons.

Claim 23 is limited to essentially the same subject matter as claim 19, and is allowable over Dupuis for at least the same reasons.

Claims 24-26 are dependent on claim 23, and are allowable over Dupuis for at least the same reasons.

Response to Arguments

Applicant's arguments with respect to claims 1-35, filed 26 August 2004, have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F Briney III whose telephone number is 571-272-7513. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2644

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WFB
4/12/05



SINH TRAN
SUPERVISORY PATENT EXAMINER